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REMARKS

Claims 1-4, 6-14 and 16-23 are pending in the present application. Claims 1, 2, 3, 12 and 14 are rejected under 35 U.S.C. §103(a) as obvious over Hori et al., U.S. Patent No. 5,445,710 in view of Chen et al., U.S. Patent No. 4,478,677. Claim 4 is rejected under 35 U.S.C. §103(a) as obvious over Hori et al. in view of Chen et al. and further in view of Fong et al., U.S. Patent No. 5,939,831. Claims 13 and 23 are rejected under 35 U.S.C. §103(a) as obvious over Hori et al. in view of Chen et al. in view of Fong et al. and further in view of Ishigami et al., U.S. Patent No. 6,097,094.

Applicants respectfully traverse these rejections. Independent claim 1 recites, in part:

providing a substrate having a plurality of stacked layers including metal layers a base of glass; . . .

adding CHF₃ gas to the processing gas for etching the lowermost layer on the substrate, wherein the processing gas is one of Cl₂ and a gaseous mixture containing Cl₂.

Thus, the lowermost layer on the substrate is etched with a processing gas including Cl₂ or a gaseous mixture containing Cl₂. This limitation is not taught by the cited art. The Hori et al. reference is silent on the issue of etching a lowermost layer on the substrate with Cl₂ or a gaseous mixture containing Cl₂. For instance, in Hori et al., examples 2, 3, 4, 9, and 10 fail to etch the lowermost layer on the substrate. In addition, examples 1, 5, 6, 11, and 12 fail to etch the lowermost

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layer on the substrate or fail to use Cl₂ or a gaseous mixture containing Cl₂ to etch the lowermost layer on the substrate. Furthermore, the addition of the Chen et al. reference fails to teach this limitation. In the event the Examiner maintains a rejection based on the Hori et al. reference and the Chen et al. reference, he is respectfully requested to provide a teaching which discloses the claimed invention including the feature of etching the lowermost layer on the substrate with Cl₂ or a gaseous mixture containing Cl₂.

Moreover, it is respectfully submitted that the Hori et al. reference and the Chen et al. reference cannot be successfully combined to arrive at the present invention. The Examiner has failed to provide any motivation to use the glass (SiO₂) of Chen et al. as the base layer of Hori et al. For instance, in example 4 of Hori et al., base layer 51 is Si and layer 52 is SiO₂. Thus, such a substitution of the base layer of Hori et al. with the glass layer of Chen et al. would result in a single layer of SiO₂ in Hori et al. Furthermore, the glass of Chen et al. is for etching (see Chen et al., column 4, lines 3-5, for example), while in the present invention, the glass is not etched. In the event the Examiner maintains a rejection based on the combination of the Hori et al. reference and the Chen et al. reference, he is respectfully requested to provide a teaching demonstrating motivation to combine the two references.

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Accordingly, as the cited art fails to teach or suggest the claimed invention, it is respectfully requested that all rejections under 35 U.S.C. §103(a) be withdrawn.

In light of the foregoing, the application is now believed to be in proper form for allowance of all claims and notice to that effect is earnestly solicited. Please charge any deficiency or credit any overpayment to Deposit Account No. 10-1250.

Respectfully submitted,
JORDAN AND HAMBURG LLP

By C. Bruce Hamburg,
C. Bruce Hamburg
Reg. No. 22,389
Attorney for Applicants
and,

by
By Jacqueline M. Steady,
Jacqueline M. Steady
Reg. No. 44,354
Attorney for Applicants

Jordan and Hamburg LLP
122 East 42nd Street
New York, New York 10168
(212) 986-2340

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